



03-13-07

AF\$  
and

PTO/SB/21 (09-06)

Approved for use through 03/31/2007. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10/760,179
	Filing Date	January 16, 2004
	First Named Inventor	WILLIAM V. ALCINI, et al.
	Art Unit	2837
	Examiner Name	Edgardo San Martin
Total Number of Pages in This Submission	Attorney Docket Number	2001U-001640

**ENCLOSURES (check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form  <input checked="" type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment / Reply  <input type="checkbox"/> After Final  <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/ Incomplete Application  <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert to a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Technology Center (TC)  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):  <b>Return receipt postcard</b>		
<table border="1"><tr><td>Remarks</td><td>The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750. A duplicate copy of this sheet is enclosed.</td></tr></table>			Remarks	The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750. A duplicate copy of this sheet is enclosed.
Remarks	The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 08-0750. A duplicate copy of this sheet is enclosed.			

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name	Gordon K. Harris, Jr.	Reg. No.	28615
Signature					
Date	March 12, 2007				

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Gordon K. Harris, Jr.	Express Mail Label No.	EV 522 877 442 US (3/12/2007)
Signature		Date	March 12, 2007

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

EV 522 877 442 US

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PTO</b> <b>Effective on 12/08/2004</b> <b>Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).</b> <b>FEE TRANSMITTAL</b> <b>for FY 2007</b> <b>Application claims small entity status. See 37 CFR 1.27</b>		<b>Complete If Known</b>	
Application Number		10/760,179	
Filing Date		January 16, 2004	
First Named Inventor		WILLIAM V. ALCINI, et al.	
Examiner Name		Edgardo San Martin	
Art Unit		2837	
Attorney Docket No.		2001U-001640	
TOTAL AMOUNT OF PAYMENT (\$)		500	

**METHOD OF PAYMENT (check all that apply)**
☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify) : \_\_\_\_\_

☒ Deposit Account Deposit Account Number: 08-0750 Deposit Account Name: Harness, Dickey & Pierce, PLC

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s)☒ Credit any overpayments

Under 37 CFR 1.16 and 1.17

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

**2. EXCESS CLAIM FEES**

Fee Description	Small Entity	
	Fee (\$)	Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180
<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee(\$)</b>
_____ -20 or HP= 0	x _____	= 0
HP = highest number of total claims paid for, if greater than 20.		
<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee(\$)</b>
_____ - 3 or HP= 0	x _____	= 0
HP = highest number of independent claims paid for, if greater than 3.		

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____	= 0	/ 50 = 0 (round up to a whole number) x	= 0	= 0

**4. OTHER FEE(S)**

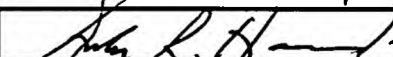
Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge) : APPEAL BRIEF FEE

**Fees Paid (\$)**

500

**SUBMITTED BY**

Signature		Registration No. (Attorney/Agent)	28615	Telephone	248-641-1600
Name (Print/Type)	Gordon K. Harris, Jr.	Date	March 12, 2007		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/760,179  
Filing Date: January 16, 2004  
Applicant: WILLIAM V. ALCINI, et al.  
Group Art Unit: 2837  
Examiner: Edgardo San Martin  
Title: DYNAMIC EXHAUST SYSTEM FOR ADVANCED  
INTERNAL COMBUSTION ENGINES

Attorney Docket: 2001U-001640

---

Mail Stop APPEAL BRIEF-PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**APPEAL BRIEF**

Sir:

This is an appeal from the final rejection of claims 1-24 under 35 U.S.C. §102(b) mailed October 13, 2006.

**I. REAL PARTY IN INTEREST**

The real party in interest is Tenneco Automotive Operating Company Inc., a Delaware corporation, having a place of business in Lake Forest, Illinois.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences which would directly affect or be directly affected by or have a bearing on the Board's decision in the instant Appeal.

### III. STATUS OF CLAIMS

No claims have been amended, added or canceled. Originally submitted claims 1-24 stand rejected and are the subject of this Appeal.

### IV. STATUS OF AMENDMENTS

In response to the Final Office Action of October 13, 2006, Applicants filed a RESPONSE TO OFFICE ACTION by Express Mail on December 13, 2006 traversing a rejection of claims 1-24 under 35 U.S.C. §102(b). Applicants filed a Notice of Appeal on January 16, 2007. By an Advisory Action mailed January 24, 2007, the Examiner maintained the rejection of claims 1-24.

### V. SUMMARY OF CLAIMED SUBJECT MATTER

In independent claim 1, Appellants' claim a method of controlling exhaust flow in an exhaust system (100 of Fig. 1; specification Paragraph [0016]) for a non-conventional internal combustion power source exhibiting, during operation larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources. The method comprises placing a passive temperature resistant valve (118 of Fig. 1 or Fig. 2; specification Paragraphs [0017]-[0020]) in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

In independent claim 6, Appellants call for a method of sound control in an exhaust system (100 of Fig. 1; specification Paragraph [0016]) for an internal combustion power source exhibiting discontinuities in exhaust gas flow during

operation. The method comprises placing a passive, temperature resistant valve (118 of Figs. 1 and 2; specification Paragraphs [0017]-[0020]) in a path of exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

In independent claim 16, Appellants call for an arrangement (100 of Fig. 1; specification Paragraph [0016]) for controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flows than found in conventional internal combustion power sources. The arrangement comprises a passive, temperature resistant valve (118 of Figs. 1 or 2; specification Paragraphs [0017]-[0020]) positioned in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

In independent claim 21, Appellants call for an arrangement (100 of Fig. 1; specification Paragraph [0016]) for controlling sound in an exhaust system for an internal combustion power source exhibiting, during operation, discontinuity in exhaust gas flow. The arrangement includes a passive, temperature resistant valve (118 of Figs. 1 or 2; specification Paragraphs [0017]-[0020]) positioned in a path of the exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

## VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds for rejection to be reviewed are:

- 1) Anticipation of claims 1-24 under 35 U.S.C. §102(b) by Yashiro et al., U.S. Patent No. 5,614,699 (Yashiro).

## VII. ARGUMENT

### Rejection Under 35 U.S.C. §102

Claims 1-24 stand rejected under 35 U.S.C. §102(b) as being anticipated by Yashiro. The rejection is respectfully traversed.

In the initial Office Action of May 9, 2006, the Examiner asserted that Yashiro at column 1, lines 59 to column 3, line 41, teaches controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source. This assertion is simply wrong.

A careful review of the entire Yashiro patent reveals no teaching or suggestion of such an environment. Applicants have discovered the benefits of inserting a passive, temperature resistant valve at predetermined positions in such a vehicle's exhaust system. The specific citation at column 1 to column 3 is merely a discussion of various valve designs and valve kinematics. It has nothing whatsoever to do with non-conventional engines that either exhibit larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in convention internal combustion power sources or advanced engines exhibiting discontinuities in exhaust gas flow during operation, such as found in cylinder deactivation systems and in hybrid vehicles where

the internal combustion power source is intermittently switched off and on depending upon driving conditions.

Therefore, there is no teaching or suggestion of at least the following limitations from the independent claims:

Independent Claims 1 and 16

“exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources”

Independent Claims 6 and 21

“exhaust system for an internal combustion power source exhibiting discontinuities in exhaust gas flow during operation”

Without acceding to the correctness of the Examiner's remarks thereover, dependent claims 2-5, 7-15 17-20 and 22-24 are likewise believed to be in condition for allowance for the same reasons set forth above with respect to their parent independent claims.

Furthermore, with respect to dependent claims 3-5, 9-14 and 18-20, there is simply no disclosure or suggestion whatsoever in Yashiro of placing the valve in the positions specified in these claims. Yashiro discloses a muffler and does not even discuss the overall exhaust system, let alone where to place a valve in that system.

In the final Office Action, the Examiner then took the position that the recitation of the type of engine to which the invention is directed was entitled to little patentable weight, because the limitation was set forth in the preamble of the independent claims, citing *Kropa v. Robie*, 88 U.S.P.Q. 478 (CCPA 1951).

In *On Demand Machine Corp. v. Ingram Industries Inc.*, 78 U.S.P.Q. 2d, 1428 (Fed. Cir. 2006), it is noted that the preamble serves to focus the reader on the invention that is being claimed. Indeed, this case cites the case cited by the Examiner in the final rejection by noting that *Kropa* calls for an inquiry as to whether the preamble is “necessary to give life, meaning and vitality to the claims”. This is precisely the case with Appellants’ claimed invention. As in *On Demand*, Appellants’ preamble serves to focus the reader on the invention that is being claimed. For example, in Appellants’ independent claim 1, the very thrust of the invention is to alter a characteristic of the gas flow for the larger ranges of acoustic frequency found in non-conventional internal combustion power sources as called for in the preamble. Indeed, each independent claim of Appellants’ instant application has a term in its body that refers back to the preamble. The entirety of the claim implements the preamble’s environment and is therefore evidence that the preamble of Appellants’ claims indeed is a limitation distinguishing them from the prior art. As pointed out previously, Yashiro is totally devoid of any teaching or suggestion of use of apparatus disclosed therein in conjunction with non-conventional internal combustion power sources exhibiting during operation larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources.

The Board is also directed to *General Electric Co. v. Nintendo Co.*, 50 U.S.P.Q. 2d, 1910 (Fed. Cir. 1999), wherein it was held that the claim preamble did not merely state a purpose or intended use, but rather the words give “life and meaning” to the claim as called for by the *Kropa* test.



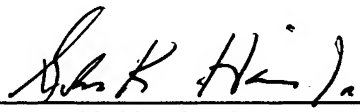
Finally, the Board is directed to *Eaton Corp. v. Rockwell International Corp.*, 66 U.S.P.Q. 2d, 1271 (Fed. Cir. 2003), wherein the preamble of a method claim in that case required manipulation of particular structures or alteration of items specifically set forth in the preamble and therefore served as an example of using both the preamble and body of the claim to define the subject matter of the claimed invention, as opposed to a preamble reciting an intended use for the invention that is defined in its entirety by the claim body.

#### CONCLUSION

The Examiner's rejections of claims 1-24 under 35 U.S.C. §102(b) are improper. The cited reference fails to disclose or suggest all the limitations of Appellants' claims. Accordingly, it is submitted that the Examiner has failed to establish a *prima facie* case of anticipation, and the Examiner's rejection of claims 1-24 should be reversed.

Respectfully submitted,

Dated: March 12, 2007

By:   
Gordon K. Harris, Jr.  
Reg. No. 28615

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

GKH/al

## CLAIMS APPENDIX

### Claims on Appeal

1. A method of controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources, the method comprising:

placing a passive temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

2. The method of claim 1 wherein the characteristic of the exhaust gas flow comprises at least one of flow restriction, flow reflection and flow direction.

3. The method of claim 1 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

4. The method of claim 1 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

5. The method of claim 1 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the non-conventional power source.

6. A method of sound control in an exhaust system for an internal combustion power source exhibiting discontinuities in exhaust gas flow during operation, the method comprising:

placing a passive, temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

7. The method of claim 6 wherein the passive, temperature resistant valve increases restriction of exhaust gas flow whenever a discontinuous decrease in exhaust gas flow rate occurs.

8. The method of claim 7 wherein the passive, temperature resistant valve restricts exhaust gas flow via a valve surface extending substantially perpendicular to a longitudinal axis of exhaust flow.

9. The method of claim 6 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

10. The method of claim 8 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

11. The method of claim 6 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

12. The method of claim 6 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

13. The method of claim 8 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

14. The method of claim 8 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

15. The method of claim 8 wherein the valve surface is positioned in a resonator having an inlet coupled to an interior conduit extending into the resonator and terminating in the resonator adjacent to the valve surface.

16. An arrangement for controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flows than found in conventional internal combustion power sources the arrangement comprising:

a passive, temperature resistant valve positioned in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

17. The arrangement of claim 16 wherein the characteristic of the exhaust gas flow comprises at least one of flow restriction, flow reflection and flow direction.

18. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

19. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

20. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

21. An arrangement for controlling sound in an exhaust system for an internal combustion power source exhibiting, during operation, discontinuity in exhaust gas flow, the arrangement comprising:

a passive, temperature resistant valve positioned in a path of the exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

22. The arrangement of claim 21 wherein the passive, temperature resistant valve increases restriction of exhaust gas flow whenever a discontinuous predetermined decrease in exhaust gas flow rate occurs.

23. The arrangement of claim 22 wherein the passive, temperature resistant valve restricts exhaust gas flow via a valve surface extending substantially perpendicular to a longitudinal axis of exhaust flow.

24. The arrangement of claim 23 wherein the valve surface is positioned in a resonator having an inlet coupled to an interior conduit extending into the resonator and terminating in the resonator adjacent to the valve surface.

## EVIDENCE APPENDIX

None.

## RELATED PROCEEDINGS APPENDIX

None.